



**COMPENSATED
DENSITY/NEUTRON
PE LOG**

Company M&M EXPLORATION, INC.

Well GUTHRIE FARMS #1

Field

County HARVEY

State KANSAS

Location: API #: 15-079-20719-0000

1090' FNL & 330' FWL

Other Services
DILMEL
SONIC

SEC 9 TWP 22S RGE 2E

Permanent Datum GROUND LEVEL Elevation 1474

Log Measured From KELLY BUSHING 12' A.G.L

Drilling Measured From KELLY BUSHING

Elevation
K.B. 1486
D.F. 1484
G.L. 1474

Date	10/30/19	
Run Number	ONE	
Depth Driller	3300	
Depth Logger	3300	
Bottom Logged Interval	3276	
Top Log Interval	2000	
Casing Driller	8 5/8" @ 212'	
Casing Logger	212'	
Bit Size	7 7/8	
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 1100 PPM
Density / Viscosity	9.1/60	
pH / Fluid Loss	10.0/8.0	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	1.10 @ 62F	
Rmf @ Meas. Temp	0.82 @ 62F	
Rmc @ Meas. Temp	1.32 @ 62F	
Source of Rmf / Rmc	MEASUREMENT	
Rm @ BHT	0.62 @ 110F	
Time Circulation Stopped	2 HOURS	
Time Logger on Bottom	////	
Maximum Recorded Temperature	110F	
Equipment Number	3802	
Location	HAYS, KANSAS	
Recorded By	JASON CAPPELLUCCI	
Witnessed By	WYATT URBAN	

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

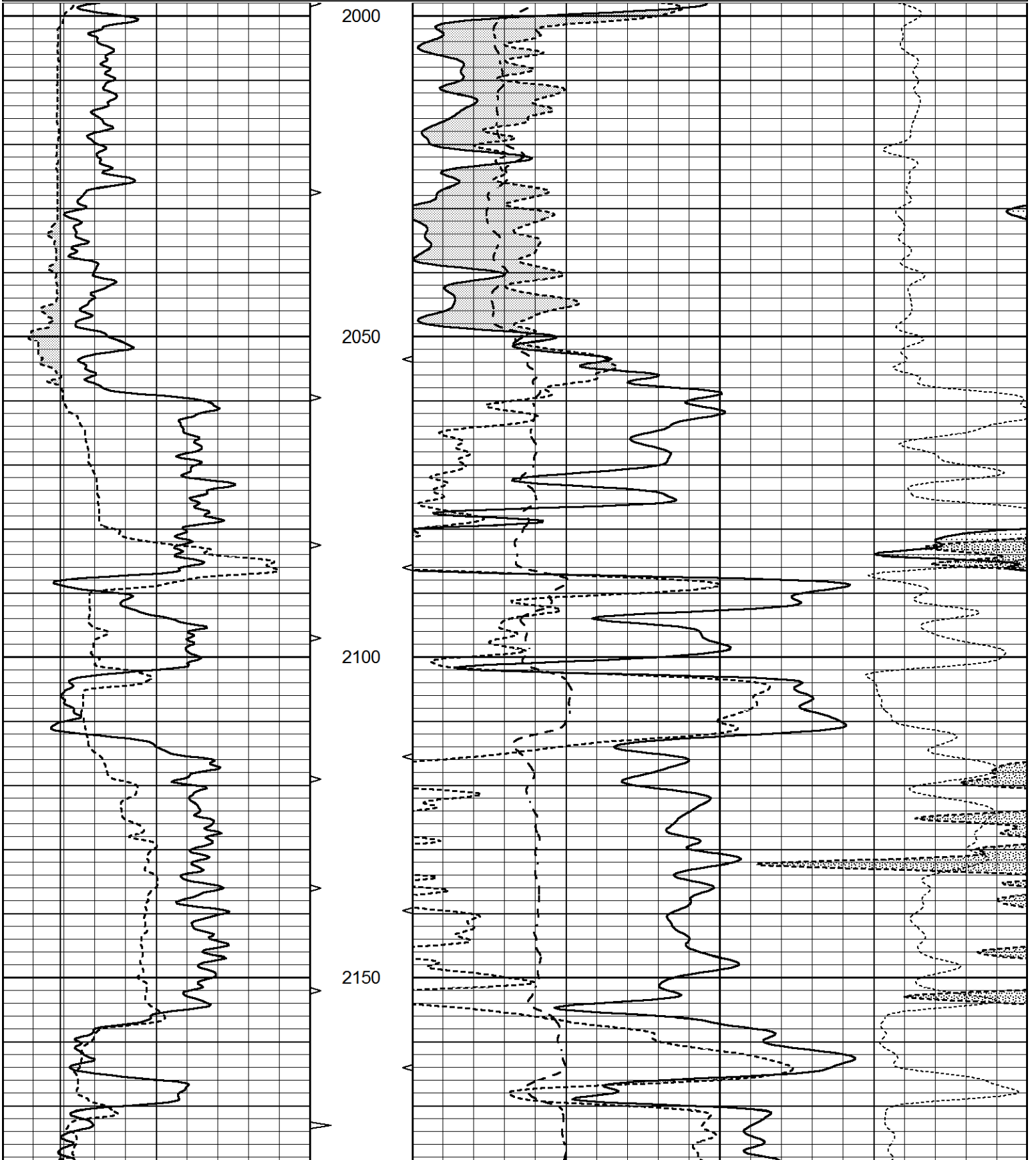
THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
 DIRECTIONS
 RUSSELL KS, SOUTH TO INTERSECTION OF HWY 281 & HWY 4 - 3 SOUTH ON BOYD
 BLKTOP - 2 WEST - 1/4 SOUTH - EAST INTO

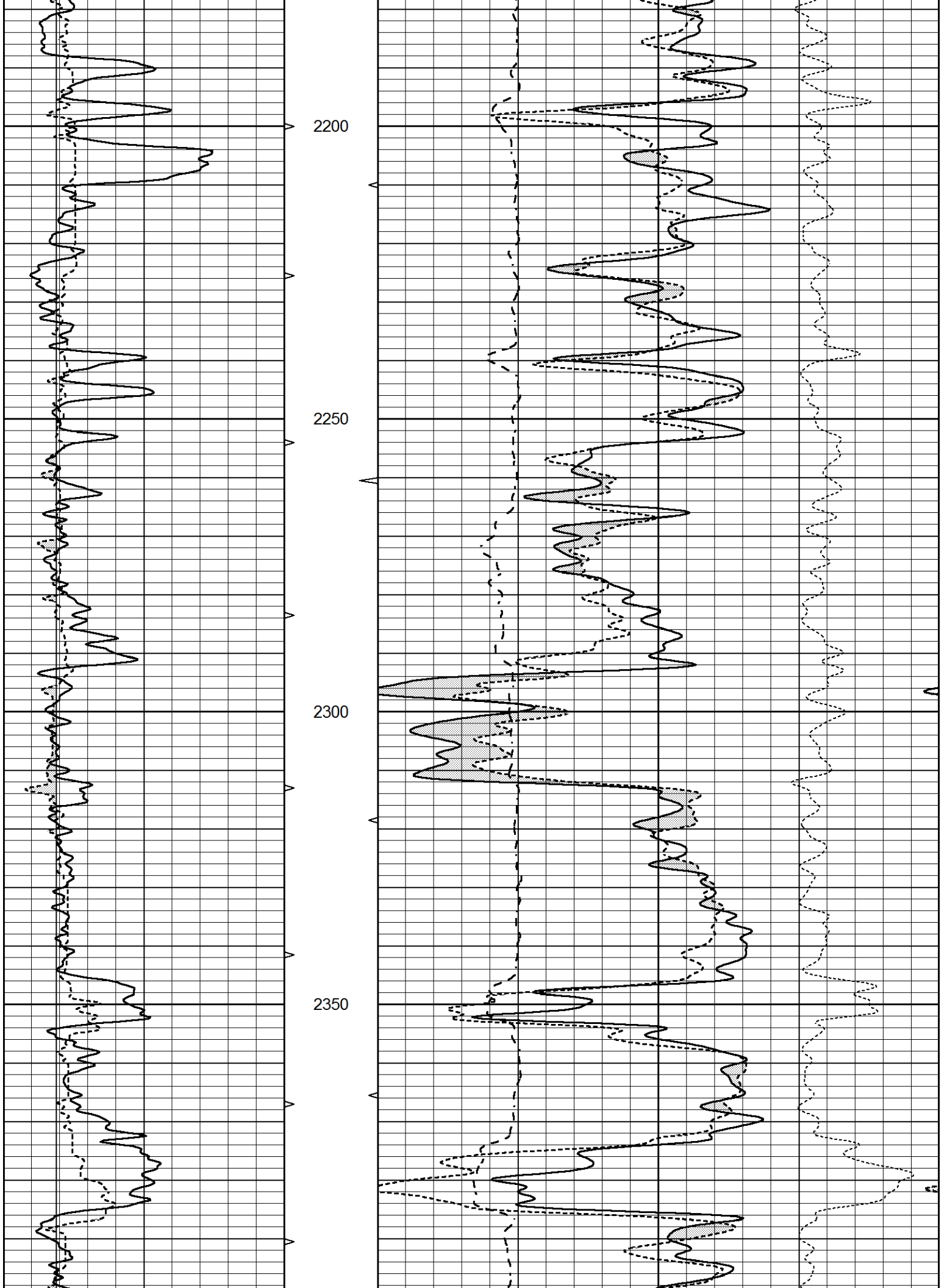


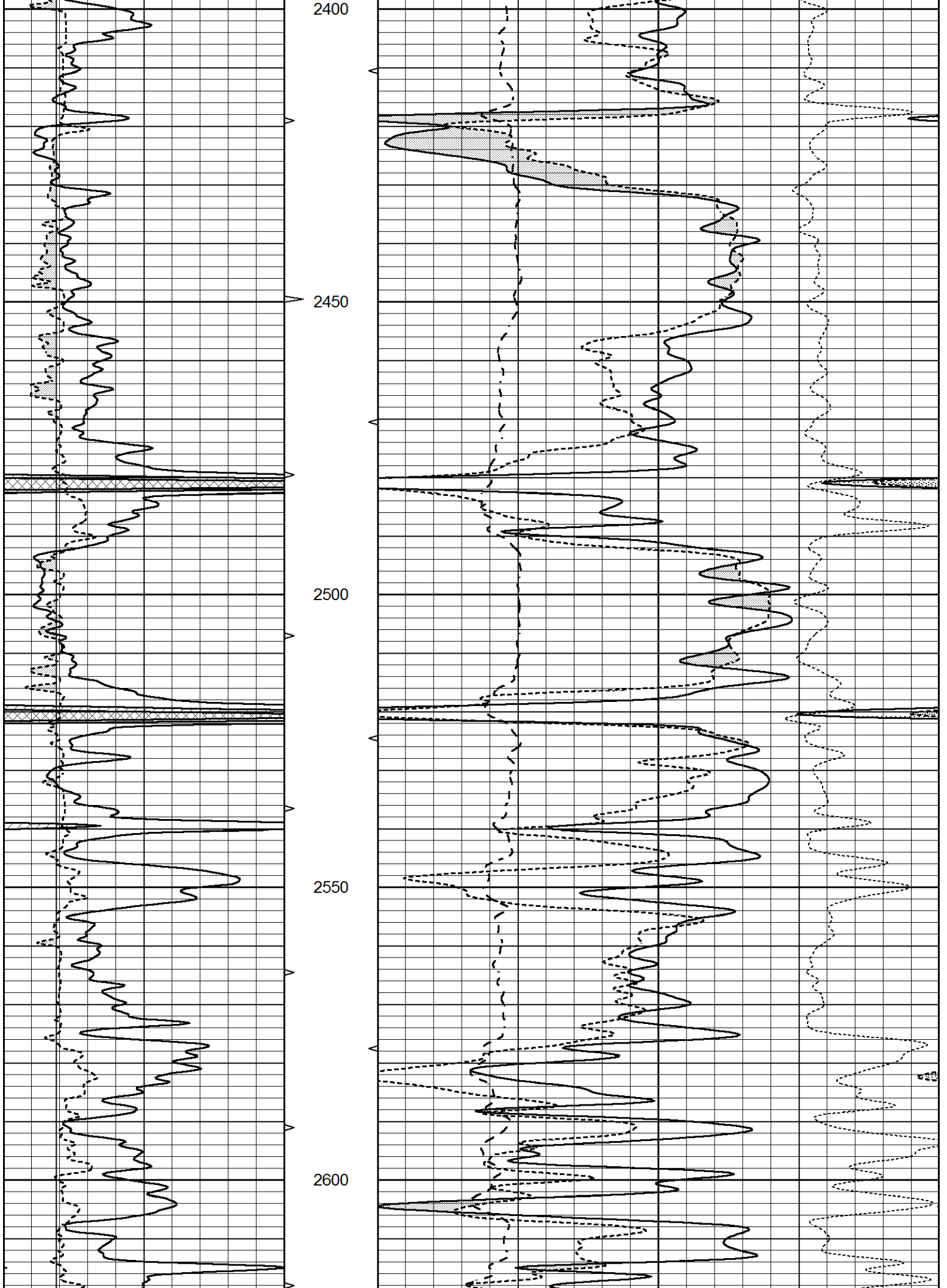
MAIN SECTION

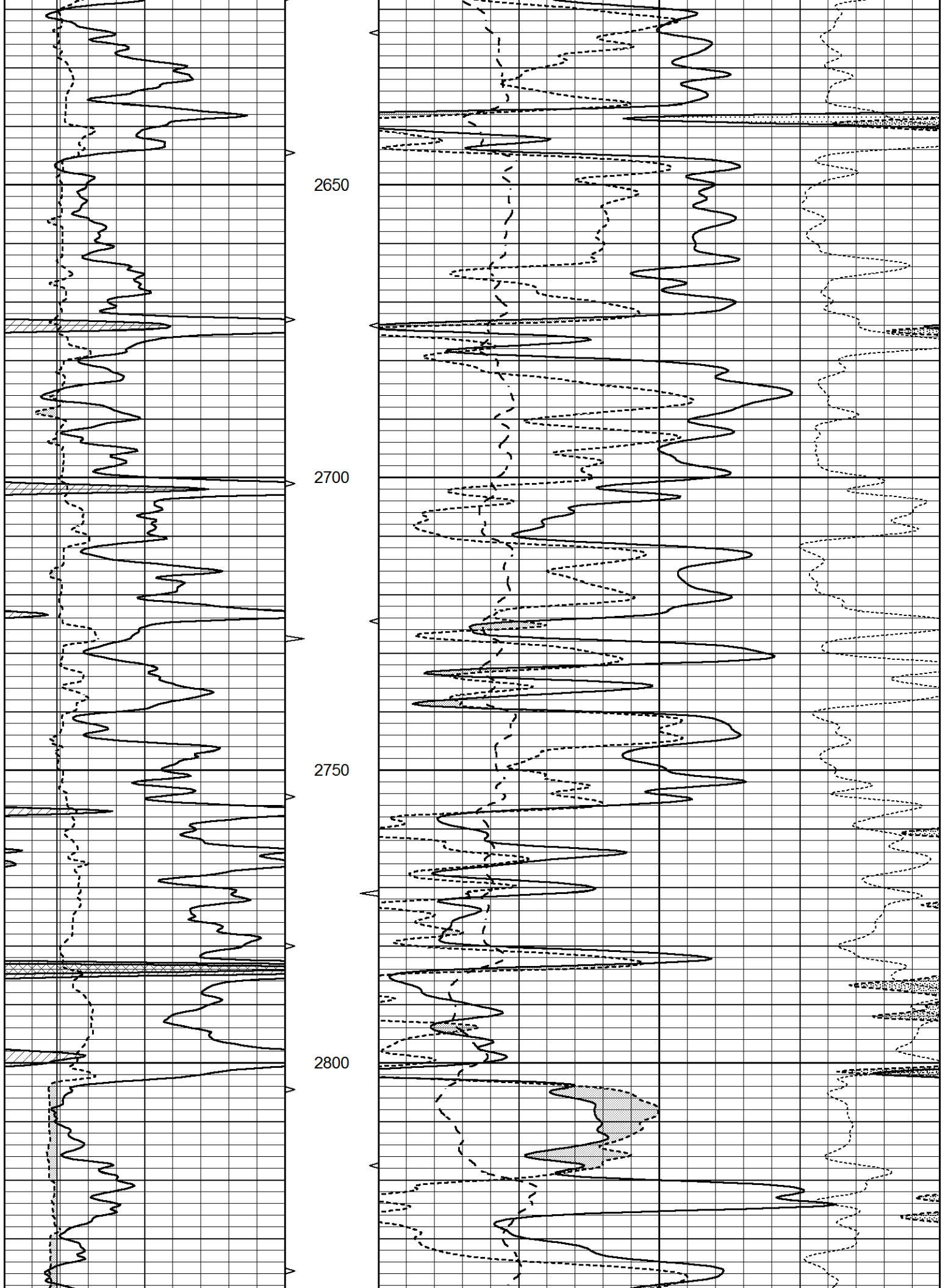
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 Presentation Format _ldt_neu
 Dataset Creation Wed Oct 30 09:32:39 2019
 Charted by Depth in Feet scaled 1:240

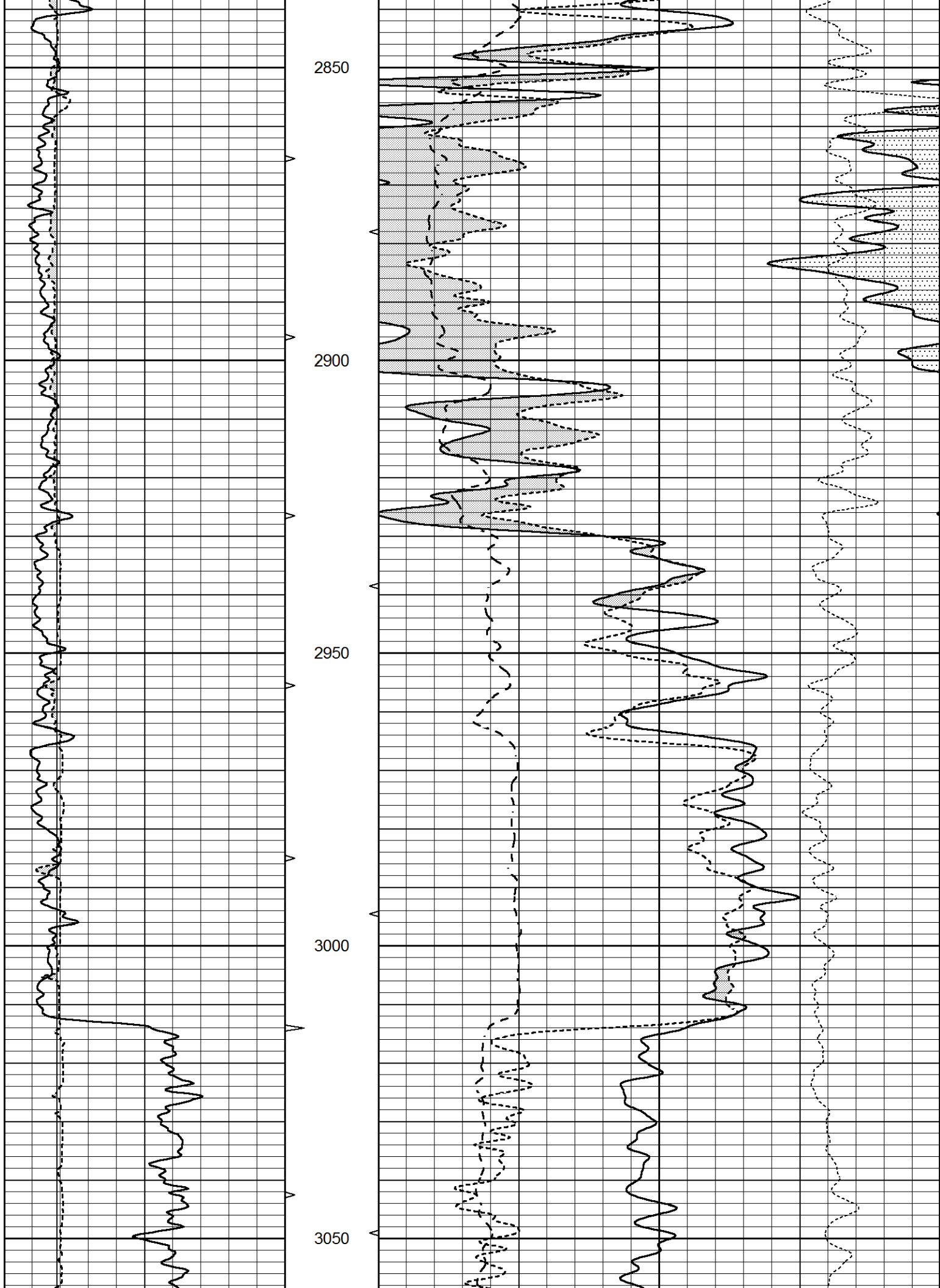
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)	-10
			TBHV	0	PE	10 -0.25
			0 (ft3)	10	CORRECTION (g/cc)	0.25

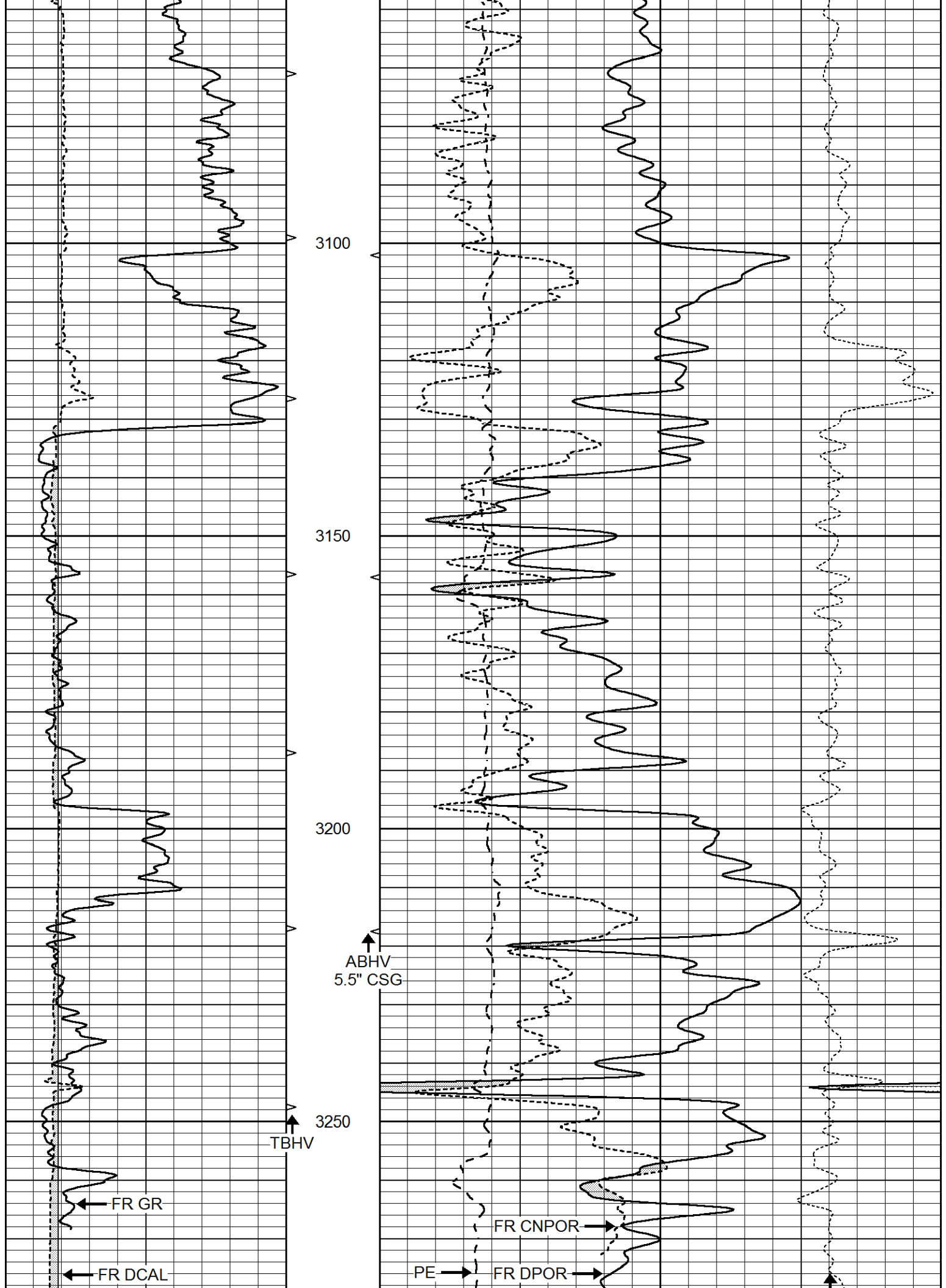


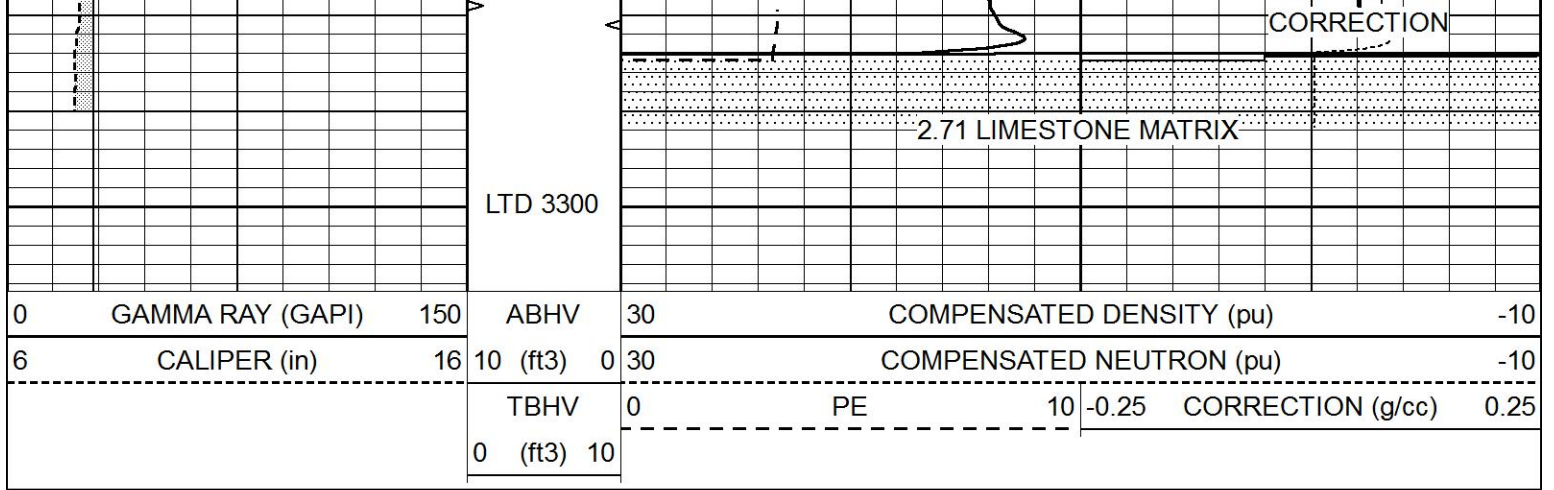






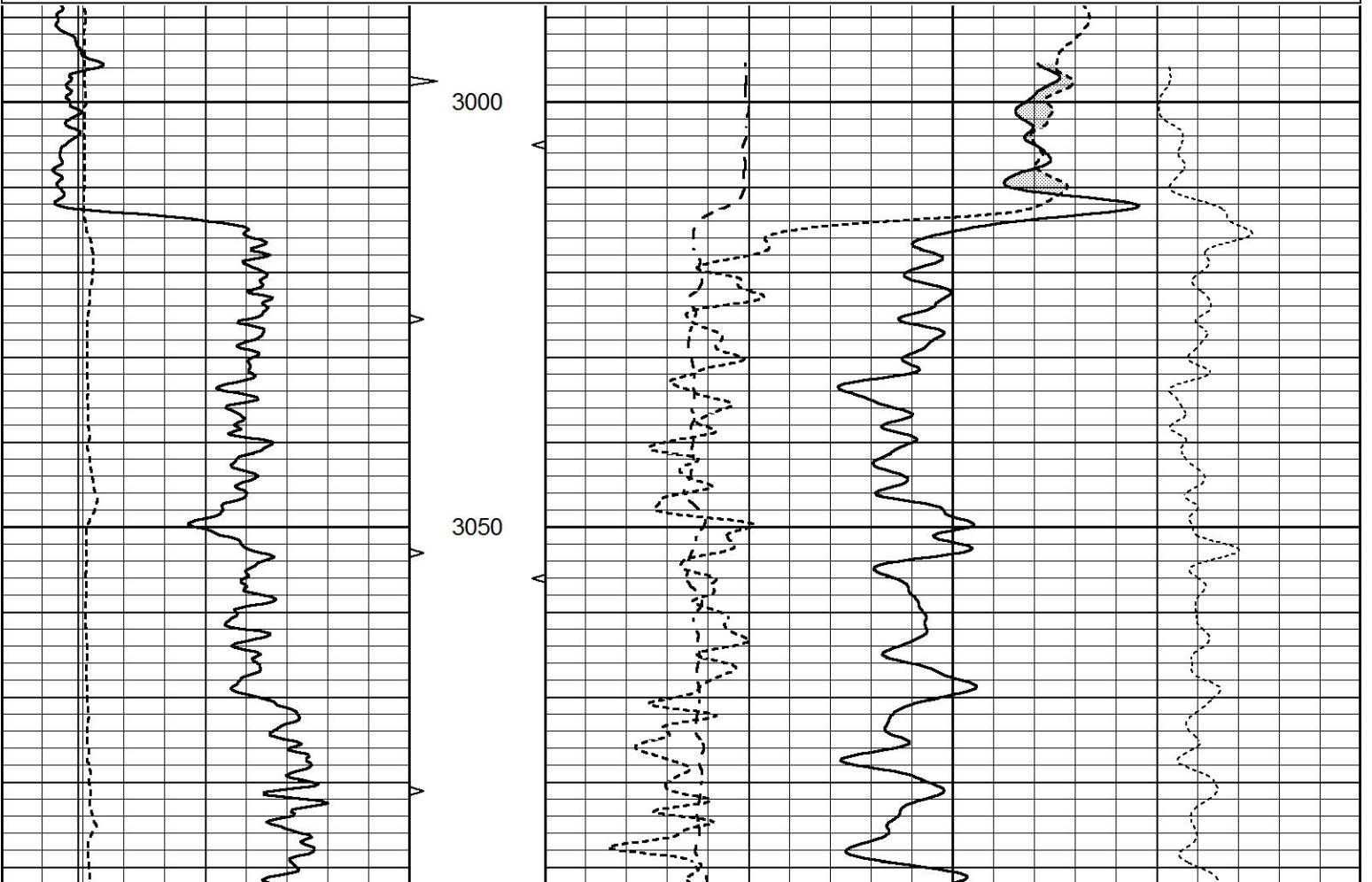
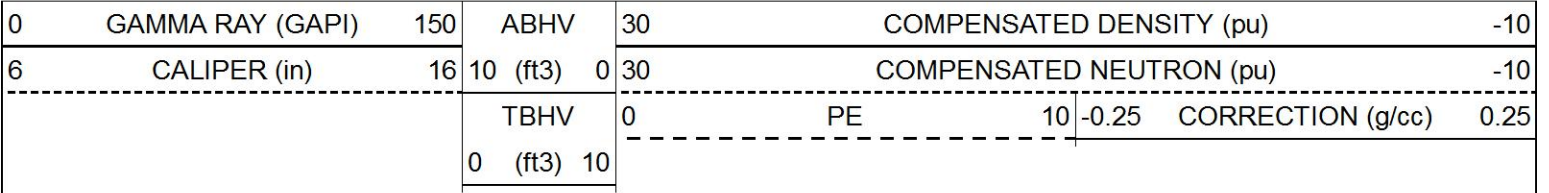


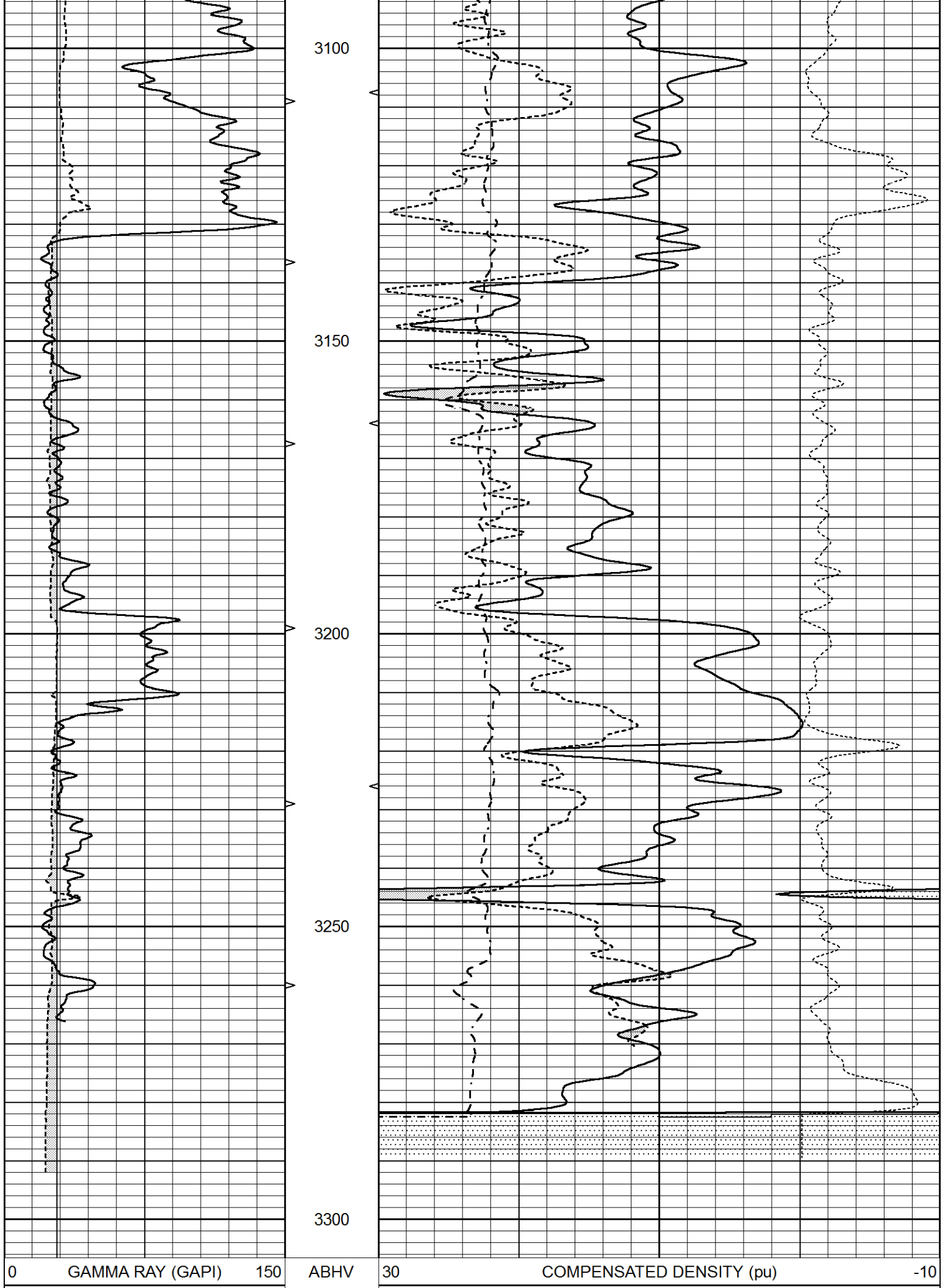




REPEAT SECTION

Database File 4428pe.db
 Dataset Pathname pass2.1
 Presentation Format _ldt_neu
 Dataset Creation Wed Oct 30 09:15:49 2019
 Charted by Depth in Feet scaled 1:240





6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)	-10
			TBHV	0		PE	10
			0 (ft3)	10			CORRECTION (g/cc)
							0.25

Calibration Report

Database File 4428pe.db
 Dataset Pathname pass2.1
 Dataset Creation Wed Oct 30 09:15:49 2019

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
 Surface Cal Performed: Tue Feb 19 11:44:18 2019
 Downhole Cal Performed: Tue Feb 19 11:44:24 2019
 After Survey Verification Performed: Tue Feb 19 11:44:27 2019

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	1.000	400.000	mmho/m	618.595	-5.524
Medium	-0.000	0.731	V	1.000	464.000	mmho/m	632.856	1.197
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.649	V	0.000	400.000	mmho/m	623.784	-4.595
Medium	0.004	0.743	V	0.000	464.000	mmho/m	627.284	-2.251

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	-0.824	395.917	mmho/m	-0.976	397.550	mmho/m	1.004	-0.149
Medium	3.565	471.327	mmho/m	3.468	471.590	mmho/m	1.001	-0.099
LL3		7.503	V		1500.000	Ohm-m		
		0.001	V		20.000	Ohm-m		
		-7.481	V		3745.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	-0.824	395.917	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	3.565	471.327	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1500.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		3745.000	mmho-m		

Litho Density Calibration Report

Serial: 140704
 Model: V4_10P
 Source Number: 74GBq-19

Master Calibration

Performed: Fri Jan 18 10:53:52 2019

	Background	Aluminum	Magnesium	
Window 1	563.20	5403.39	24190.50	cps
Window 2	44.78	1243.51	6049.93	cps
Window 4	247.62	1222.40	5239.60	cps
Window 5	568.17	8975.27	17094.80	cps
Window 6	44.48	1484.88	2022.28	cps

Window 6	44.48	1484.88	2922.28	cps	
Window 8	270.82	2877.34	5377.89	cps	
Bulk Density	-	2.6020	1.6830	g/cc	
Pe	-	3.0000	2.5070	b/e	
LS Alpha:	: -1.8641	SS Alpha:	: -0.7692	LS CPE:	: 1.1004
LS Beta:	: 127931.7253	SS Beta:	: 20075.8142	SS CPE:	: 1.5209

Before Survey Background Counts Verification

Performed: Wed Dec 31 18:00:00 1969

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 8	0.00	cps

After Survey Background Counts Verification

Performed: Wed Dec 31 18:00:00 1969

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 8	0.00	cps

Lithodensity Caliper Calibration

Performed: Fri Jan 18 10:53:52 2019

Results	Readings		References (in)		Gain	Offset
	Low	High	Low	High		
	_____	_____	_____	_____	_____	_____
	3586.3	5529.9	8.0	16.0	0.0	-6.8

Before Survey Caliper Verification

Performed:

	Reference	Reading
	_____	_____
Caliper (in)		

After Survey Caliper Verification

Performed:

	Reference	Reading
	_____	_____
Caliper (in)		

Compensated Neutron Calibration Report

Serial Number: 080621PMC
Tool Model: NABORS

PRE-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

POST-SURVEY VERIFICATION

Detector	Readings	Measured	Target
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Detector

Readings

Measured

Target

Short Space
Long Space

cps
cps

pu

pu

Gamma Ray Calibration Report

Serial Number:	7	
Tool Model:	Probe1	
Performed:	Tue Feb 19 11:45:10 2019	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.4300	GAPI/cps